(December 2, 2002)

Test Requirements

Section 9-03.8 (2) is supplemented with the following:

Asphalt Concrete Pavement Class Superpave

Aggregate for asphalt concrete pavement Class Superpave shall meet the following test requirements:

The aggregate shall meet the Flat and Elongated shape requirements, measured as percent by weight of flat-elongated in accordance with ASTM Test Method D4791, the percent shall not exceed 10 percent. The ratio shall be 5:1.

The fracture requirements for the combined coarse aggregate are at least *** $$1$$ *** fractured face(s) on 90% of the material retained on each specification sieve U.S. No. 4 and above, if that sieve retains more that 5% of the total sample, when tested in accordance with WAQTC TM-1.

The fine aggregate angularity for the combined fine aggregate is tested in accordance with AASHTO T304, Method A. The minimum voids shall be 45%.

The minimum sand equivalent for the aggregate shall be 37.

The properties of the aggregate in the mix design for asphalt concrete pavement Class Superpave shall be such that, when it is combined within the limits set forth in Section 9-03.8(6) and mixed in the laboratory with the designated grade of asphalt cement, using the Superpave gyratory compactor in accordance with AASHTO 312, at *** $$2$$ *** gyrations for N initial, ***$$3$$ *** gyrations for N design, and *** $$4$$ *** gyrations for N maximum, shall produce mixtures with the following test values:

	Class 3/8 In.		**Class 1/2 In.**		**Class 3/4 In.**		**Class 1 In.**	
Mix Criteria	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
Voids in Mineral Aggregate (VMA)	15.0%		14.0%		13.0%		12.0%	
% Voids Filled with Asphalt (VFA)	$$5$$	$$6$$	$$7$$	$$8$$	$$9$$	$$10$$	$$11$$	$$12$$
% Gmm at N int		$$13$$		$$14$$		$$15$$		$$16$$
% Gmm at N max		98.0		98.0		98.0		98.0
Dust / Asphalt Ratio	0.6	1.6	0.6	1.6	0.6	1.6	0.6	1.6
Modified Lottman Stripping Test	Pass		Pass		Pass		Pass	
% Air Voids (Va) (approximate)	4.5%		4.5%		4.5%		4.5%	

The second paragraph of Section 9-03.8(2) is revised to read as follows:

When material is being produced and stockpiled for use on a specific contract or for a future contract, the fine aggregate angularity, flat and elongated particles, fracture and sand equivalent requirements shall apply at the time of stockpiling. When material is used from a stockpile that has not been tested as provided above, the fine aggregate angularity, flat and elongated particles, fracture and sand equivalents shall apply at the time of its introduction to the cold feed of the mixing plant.

Proportions of Materials

Section 9-03.8(6) is supplemented with the following:

Asphalt Concrete Pavement Class Superpave

The asphalt concrete shall be within the requirements listed in the following table, and meet the volumetric requirements listed in Section 9-03.8(2). When the mixture is tested in the field using the gyratory compactor, the mixture will have air voids within 3% to 6% at N design gyration level. Voids in mineral aggregate (VMA) so determined shall be greater than a value of 1.0% below the specified VMA value for the class of mix used. (i.e. for a design value of not less than 13.0%, the field acceptance value shall not be less than 12.0%)

The Contractors mix design proposal shall be between the control points, and shall not cross the maximum density line within the limits of the restricted zone as indicated in the following table.

The aggregate percentage refers to completed dry mix, and includes mineral filler when used.

Aggregate Gradation Control Points

Sieve Sizes	**Grading Requirements Class Superpave**			
	3/8 In.	**1/2 In.**	**3/4 In.**	**1 In.**
1 1/2" square				100
1" square			100	90 - 100
3/4" square		100	90 - 100	90 Maximum
1/2" square *	100	90 - 100	90 Maximum	*
3/8" square *	90 - 100	90 Maximum	*	*
U.S. No. 4 *	90 Maximum	*	*	*
U.S. No. 8 *	32 - 67	28 - 58	23 - 49	19 - 45
U.S. No. 200 *	2.0 - 7.0	2.0 - 7.0	2.0 - 7.0	1.0 - 7.0

* The noted screens have associated weighting factors listed in Section 5-04.5(1)A, Price Adjustment for Quality of AC Mix.

Boundaries of Aggregate Restricted Zone

	Class Superpave							
Sieve Sizes	**3/8 In.**		**1/2 In.**		**3/4 In.**		**1 In.**	
	Min.	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
U.S. No. 4							39.5	39.5
U.S. No. 8	47.2	47.2	39.1	39.1	34.6	34.6	26.8	30.8
U.S. No. 16	31.6	37.6	25.6	31.6	22.3	28.3	18.1	24.1
U.S. No. 30	23.5	27.5	19.1	23.1	16.7	20.7	13.6	17.6
U.S. No. 50	18.7	18.7	15.5	15.5	13.7	13.7	11.4	11.4

Basis of Acceptance

Section 9-03.8(6)A, Item 3, subsection a, is supplemented with the following:

Class Superpave

Constituent of Mixture	Tolerance Limits
	The tolerance limit for each mix constituent shall not exceed the limits of the control points, except the tolerance limits for sieves designated as 100% passing will be 99-100.
Aggregate passing , 1", 3/4", 1/2" and 3/8" sieves	± 6%
Aggregate passing U.S. No. 4 sieve	± 5%
Aggregate passing U.S. No. 8 sieve	± 4%
Aggregate passing U.S. No. 200 sieve	± 2.0%
Asphalt cement	± 0.5%

These tolerance limits constitute the allowable limits as described in Section 1-06.2.

Section 9-03.8(6)A, Item 3, subsection c. 1, is supplemented with the following:

Asphalt Concrete Pavement Class Superpave

Aggregates. Upon written request from the Contractor, the Project Engineer may approve field adjustments to the JMF a maximum of 2 percent for the aggregate retained on the U.S. No. 8 sieve and above, 1 percent for aggregate passing the U.S. No. 8 sieve, and 0.5 percent for the aggregate passing the U.S. No. 200 sieve. These field adjustments to the JMF may be made by the Project Engineer provided the changes will produce material of equal or better quality.